

13th Working Group Meeting for

**Proposed Amended Rule (PAR) 1469 – Hexavalent
Chromium Emissions from Chromium
Electroplating and Chromic Acid Anodizing
Operations**

**South Coast AQMD
July 17, 2018**

Agenda

- Update on PAR 1469 activities since Working Group Meeting #12
 - April – Stationary Source Committee Meeting
 - May – Set Hearing
- Modifications to Draft Rule Language
- Draft Socioeconomic Impact Assessment

April 20, 2018 – Stationary Source Committee Meeting for PAR 1469

- Staff responded to comments from the Stationary Source Committee Meeting held in March
- 42 stakeholders testified
- Committee raised concerns about health impacts, alternatives to hexavalent chromium, and costs
- Committee directed staff to continue to work with stakeholders

SCAQMD Staff Outreach

- Following April Stationary Source Committee Meeting
 - Staff contacted all commenters either by phone, in person, or at their facility (10 individual site visits and meetings)
- Staff was receptive to many of the comments and issues raised by stakeholders

May 4, 2018 – Set Hearing for PAR 1469

- Stakeholders commented on the following:
 - Compliance costs and potential job impacts
 - Military and aerospace specifications
 - Scientific basis for rule amendments
- Board voted to set the Public Hearing in September
 - Return to Stationary Source Committee in July and
 - Recommended staff work with stakeholders
- Staff met with Metal Finishing Association of Southern California

Revisions to Preliminary Draft Rule Language

Definitions (c)

The following definitions were modified to include:

- **BUILDING ENCLOSURE:**

- A room within a building that is completely enclosed with a floor, walls, and a roof

- **PERMANENT TOTAL ENCLOSURE:**

- Other design approved by the Executive Officer

- **TIER III HEXAVALENT CHROMIUM TANK:**

- Chromic acid anodizing tank or chromium electroplating tank

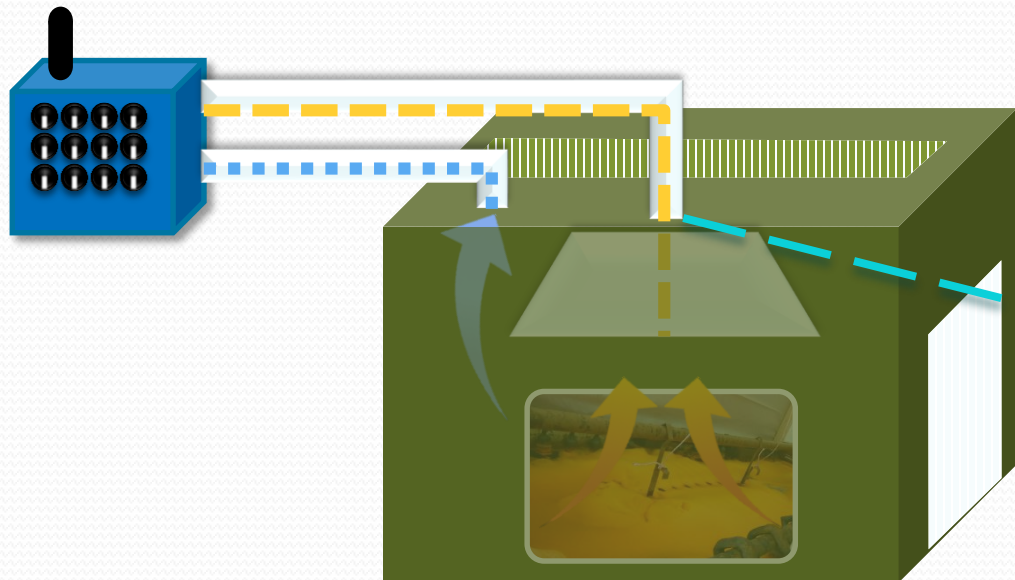
- **TANK PROCESS AREA:**

- Area in the facility within 15 feet from a Tier I, Tier II, or Tier III hexavalent chromium tank

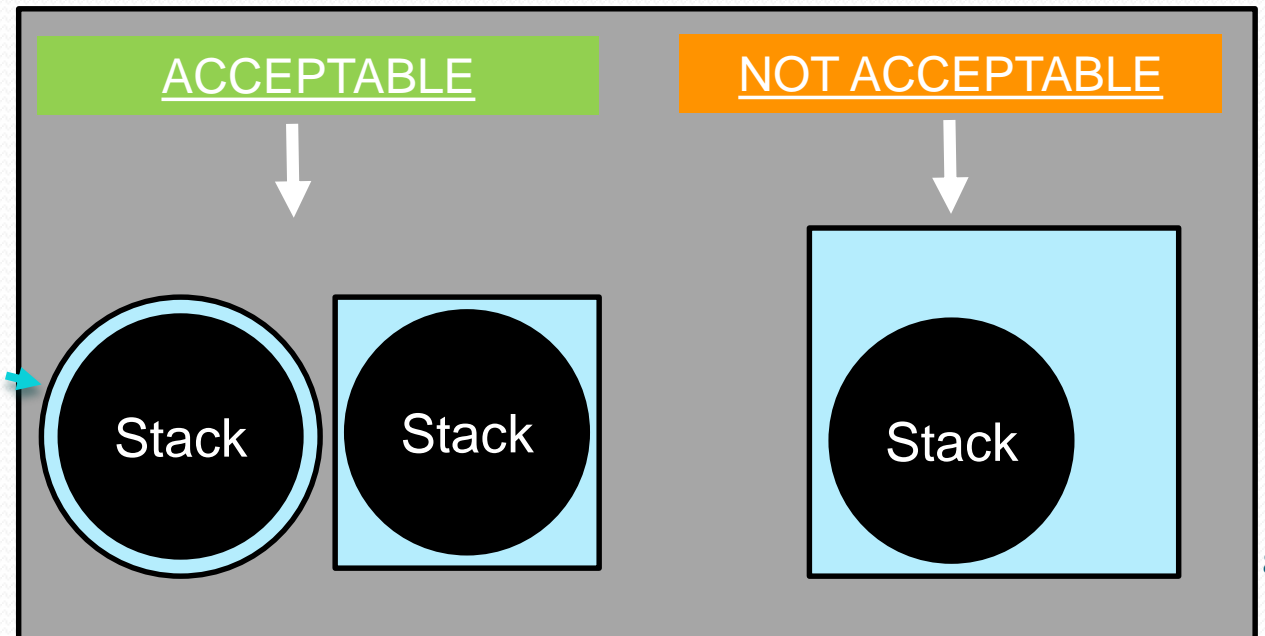
Definitions (c) – continued

- ENCLOSURE OPENING

- Modified to exclude stacks, ducts, and openings that accommodate and generally conform to the stack and duct



Enclosure Opening (Top View)

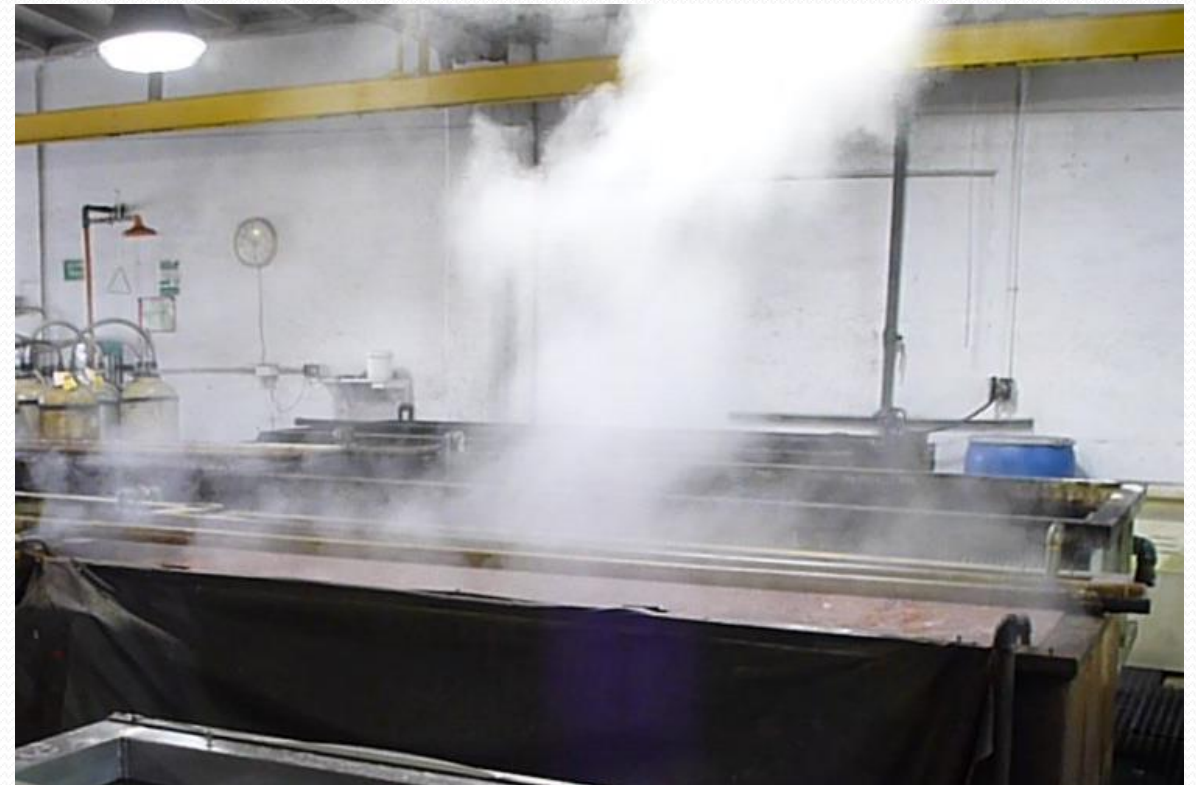


Requirements (d)

- Continue with to evaluate freeboard ratio during permitting - current SCAQMD permitting practice
 - Removed freeboard height requirements
- Modified Building Enclosure requirements to include the following:
 - Allow openings to make up to 3.5% of a building envelope
 - Allow the use of equipment to function as a barrier to prevent air flow through a building enclosure
 - Prohibit all roof openings within 15 feet of Tier II and Tier III tanks, unless
 - Access is required for equipment or parts
 - Provides intake or circulation air
 - Equipped with HEPA filter or other APCD

Requirements for Building Enclosures for Tier II and Tier III Tanks (e) – (continued)

- Extended date from 90 days to until the facility installs an add-on air pollution control device to comply with building enclosure requirements for facilities that are installing an add-on air pollution control device for either a Tier II or Tier III tank
 - Uncontrolled tanks can create humid and hot conditions in a building enclosure if not adequately ventilated
 - Humidity and heat can be controlled with add-on air pollution control devices that will take additional time to install

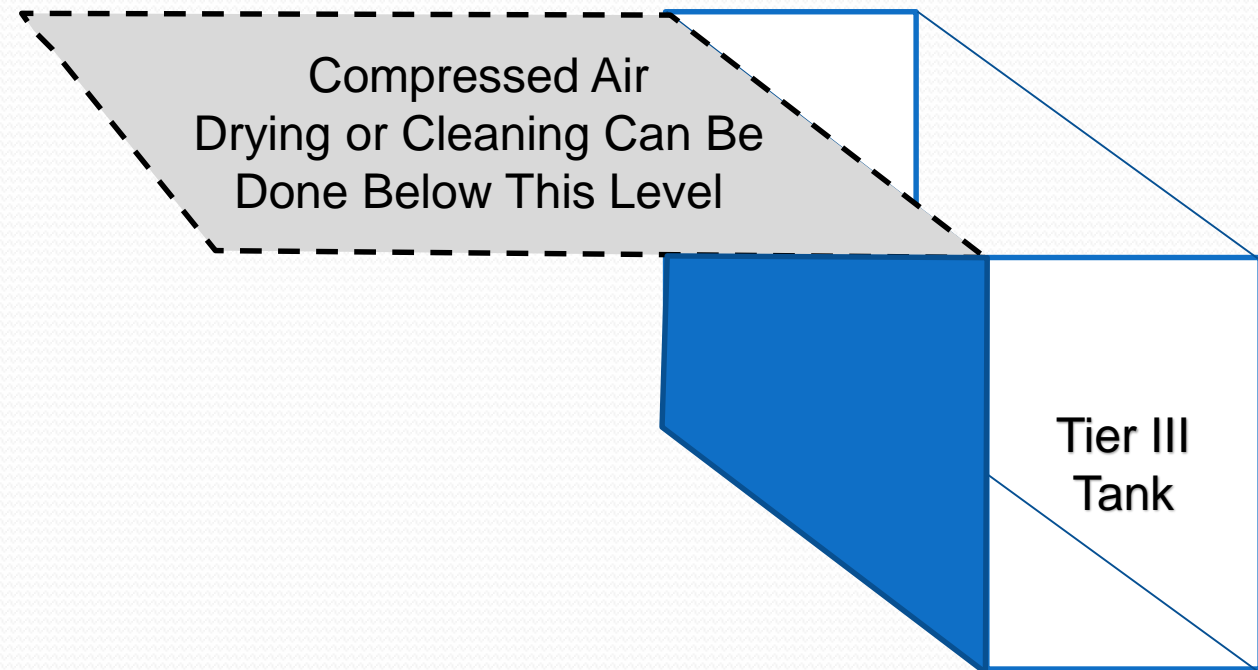


Housekeeping Requirements (f)

- Clarified that the housekeeping requirements for cutting roof surfaces only apply to building enclosures for Tier II and Tier III tanks
- Frequency of housekeeping requirements continues to be weekly

Best Management Practices (g)

- Provided additional time for facilities to implement new BMP requirements from date of adoption to 90 days or 30 days after date of rule adoption (depending on provision)
 - Additional time allows operator to make necessary modifications to ensure compliance
- Modified spray rinsing requirements to apply only to parts or equipment previously in a Tier II or Tier III tank
- Tank can function as a barrier provided parts and equipment that are compressed air dried are located below the lip of the tank



Source Test Requirements and Test Methods (k)

- A source test conducted after January 1, 2015 (previously October 1, 2015) may be used to satisfy the initial source test requirement
- Reduced frequency of subsequent source tests
- Frequency of subsequent source tests is based on permitted ampere-hours
 - More than 1,000,000 AMP-HRS required to source-test every 60 months
 - 1,000,000 AMP-HRS or less required to source-test every 84 months

Inspection and Operation and Maintenance Plan (n)

- Provide additional time to comply with new inspection and maintenance requirements
 - 90 days after the date of rule adoption
- Require a revised facility Operation and Maintenance Plan
 - 90 days after date of rule adoption
 - For example, inclusion of temperature gauges, inspection and maintenance of collection slots

Appendix

- Appendix 4 – Moved new inspection and maintenance requirements into:
 - Table 4-2: Additional Inspection and Maintenance Requirements for Tier I, II, and III Hexavalent Chromium Tank(s)
 - Table 4-3 Summary of Inspection and Maintenance Requirements for Sources Not Using Add-on Air Pollution Control Devices to Control Tier II Hexavalent Chromium Tank(s)
- Appendix 10 – Added language to specify that air sparged and electrolytic tanks with a hexavalent chromium concentration greater than 1,000 ppm shall be considered a Tier III tank regardless of operating temperature

Rule Language Clarifications

- Additional edits were made throughout PAR 1469 to:
 - Clarified and streamlined rule language
 - Corrected rule references
 - Used consistent language (e.g. references to the Executive Officer, the District, or SCAQMD)

Socioeconomic Impact Assessment

Legal Requirements Pertaining to PAR 1469 California Health & Safety Code

- Socioeconomic impact assessment:
 - Type of affected industries, including small businesses
 - Impact on employment and the regional economy
 - Range of probable costs, including costs to industry or business
 - Assess socioeconomic impacts of CEQA Alternatives
- Governing Board shall:
 - Actively consider socioeconomic impacts
 - Make a good faith effort to minimize adverse socioeconomic impacts

Overview of Facility Information

- Staff categorized facilities by the following:
 - Type of Electrolytic Operation: Chromic acid anodizing, hard electroplating, decorative electroplating, multiple, trivalent
 - Permitted Amp-Hours: small (<500,000), medium (500,000-10,000,000), large (>10,000,000), other (if facility amp-hours not available at time of analysis, the most applicable category was used)
- 13 facility categories used to characterize available data
- Information obtained from:
 - Facility surveys
 - SCAQMD permit database
 - Metal Finishing Association of Southern California consultant
 - Vendor quotes

Cost Considerations

- Costs to comply with PAR 1469 include one-time (capital) costs and recurring costs

One-Time Costs

- Add-on air pollution control systems
- Permit application fees
- Initial source tests
- Building enclosure modifications
- Other (BMPs, instrumentation, etc.)

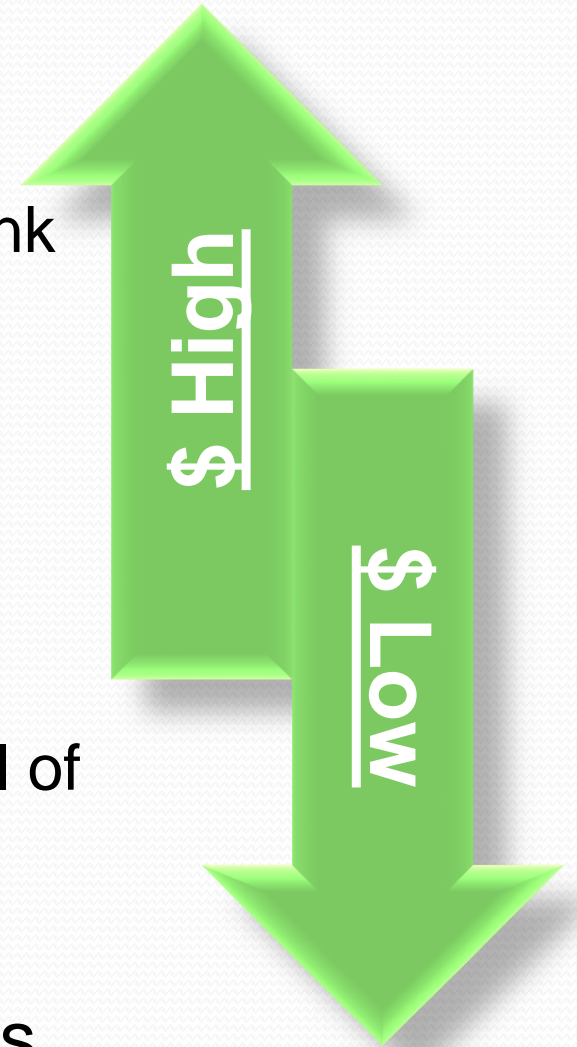


Recurring Costs

- Operation and maintenance
- Emissions screening tests
- Annual permit renewal fees
- Additional electrical power consumption
- Parameter monitoring

General Approach to Calculating Cost

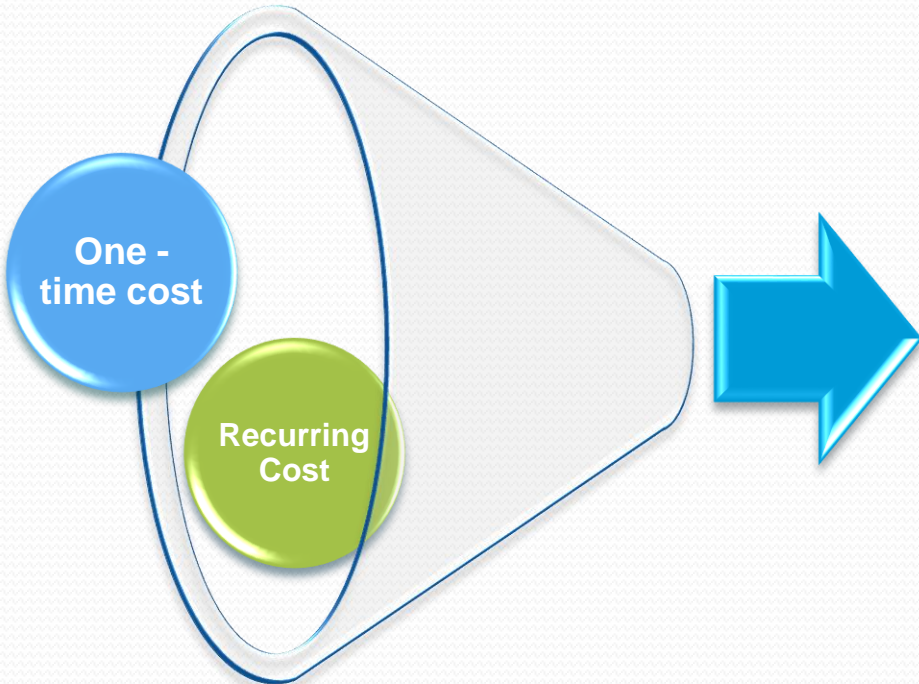
- Two cost scenarios analyzed:
 - High cost scenario
 - Assumes one Air Pollution Control system per Tier III tank for a total of 130 systems
 - Additional ventilation for high temperature tanks
 - Fume suppressants will not be re-certified
 - 27 additional Air Pollution Control systems
 - Low cost scenario
 - Multiple tanks per Air Pollution Control system for a total of 64 systems
 - Fume suppressants will be re-certified
- Estimated costs are bounded by these two scenarios



General Approach to Calculating Cost

Staff Analyses
With Stakeholder Input

Socioeconomic Impact
Assessment



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Socioeconomic Assessment for
Proposed Amended Rule 1469 — HEXAVALENT CHROMIUM EMISSIONS
FROM CHROMIUM ELECTROPLATING AND CHROMIC ACID ANODIZING
OPERATIONS

September 2018

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Average Annual
Cost of PAR 1469



Average Annual
Cost Per Facility



Average Facility
Revenue Impacts

Air Pollution Controls – Costs

One-Time (Capital) Costs Include

- Ventilation system
- Mist eliminator
- HEPA filters
- Ductwork
- Shipping
- Tax
- Installation



Recurring Costs Include

- Operation and maintenance
- Pre-filters and HEPA filters
- Source testing/emissions screening costs
- Annual permit renewal fees
- Increased electricity use

Low Cost Scenario Assumptions

- 64 APCs

High Cost Scenario Assumptions

- 103 APCs
- 27 additional APCs*
- 40 tanks w/ higher ventilation rates

Average Annual Cost

\$2.0 Million

\$3.3 Million

* If chemical fume suppressants are not certified.

Permitting and Source Testing Cost Assumptions

Permitting Costsⁱ

- One-time: permit application fee of \$4,354 per application
- Recurring: annual permit renewal fee of \$1,409

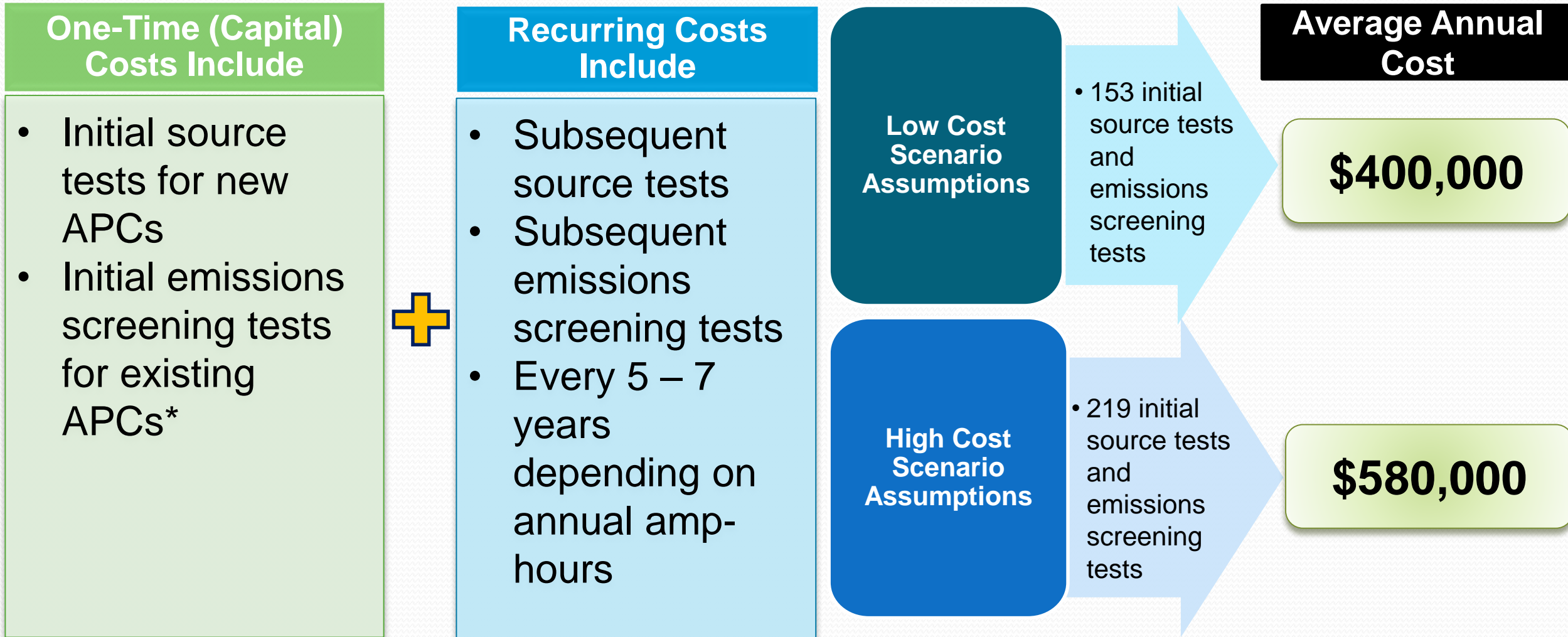
Source Testing Costsⁱⁱ

- One-time: initial source test cost of \$14,000 to \$18,000
- Recurring: emissions screening test of \$14,000 every 5 to 7 seven years

i) Lower cost estimate assumes 64 permit applications and higher cost estimate assumes 130 permit applications

ii) Lower cost estimate assumes 153 initial source tests and emissions screening tests required and higher cost estimate assumes 219 initial source tests and emissions screening tests required

Source Testing – Costs



*If prior source tests conducted after January 2009

Building Modification and Permanent Total Enclosure (PTE) Cost Assumptions

- Most facilities can meet 3.5% enclosure opening requirement without substantial modifications

Facilities Requiring Minor Modifications

- 111 facilities
- Seal roof vents within 15 ft of Tier II or Tier III Tanks
- Existing labor used
- \$200 per vent

Facilities Requiring More Substantial Modifications

- 12 facilities (of 111 facilities)
- Plastic flaps, light-gauge steel, roll-up doors
 - Average of \$15/ft²
 - 400 ft² assumed for low cost scenario
 - 1,000 ft² for high cost scenario

- Staff assumed 2 PTEs will be triggered
 - Included only in the high cost scenario

Building Modification and PTE – Average Annual Costs

One-Time (Capital) Costs Include

- Building modifications:
 - Seal roof openings
 - Roll-up doors
 - Plastic strip curtains
- Ventilation system
 - for triggered PTEs



Recurring Costs Include

- Operation and maintenance
- Increased electricity use
- Replacement of HEPA filters (for triggered PTEs)

Low Cost Scenario Assumptions

- Assumes building modifications
- 400 ft² required to be sealed

High Cost Scenario Assumptions

- Assumes building modifications
- 1,000 ft² required to be sealed
- Assumes 2 PTEs triggered

Average Annual Cost

\$22,000

\$42,000

Best Management Practices – Costs

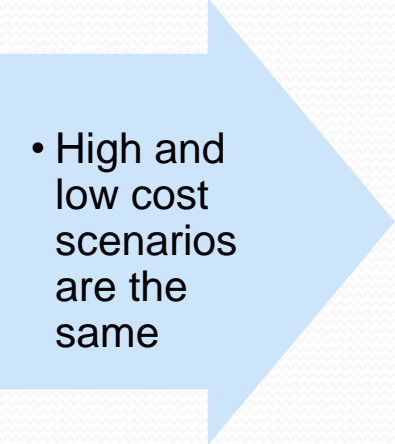
One-Time (Capital) Costs Include

- Drip trays
- Splash guards
- Tank labeling
- Barrier between tank area and buffing, grinding or polishing area
- Parameter monitoring instrumentation



Recurring Costs Include

- Not applicable

- 
- High and low cost scenarios are the same

Average Annual Cost

\$76,000

Socioeconomic Impacts

- Revisions to PAR 1469 (February proposal) reduced:
 - Average annual cost per facility about 45%
 - Annual jobs forgone about 50%
- Reductions were attributed to:
 - Reduced frequency of source testing from 3 years to 5 or 7 years depending on permitted Amp-hours
 - Maintaining weekly instead of daily housekeeping
 - Refined assumptions for number of Tier II and III Tanks (Testing data showed that less stripping tanks would be impacted)

Socioeconomic Assessment Conclusions

Facility Impacts Analysis

- The average annual cost estimates for affected facilities range from \$22,000 to \$36,000
- The greatest average cost will be incurred by anodizing (medium) facilities
- The average cost-revenue impact is 1.8% to 3.3%
 - Cost-revenue impacts will be reduced if funding is available for facilities that need air pollution controls if chemical fume suppressants are not certified
- Total average annual cost is \$2.65 to \$4.26 million

Job Impacts Analysis

- PAR 1469 is expected to result in approximately 37 to 63 to jobs forgone annually for entire region
- Average between 2019 and 2035 when a lower cost estimate and a higher cost estimate are assumed, respectively

Next Steps

- Release Draft Staff Report and Proposed Rule – August 8, 2018
- Public Hearing – September 7, 2018

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